

あ“あ・い Ryumin-Light  
あ“あ・い← IPA明朝 (ipam)  
あ“あ・い← KozMinPr6N-Regular  
あ“あ・い← IPA P明朝 (ipamp)  
あ 123 \relax

ここからは、欧文文字フォントは IPA EX ゴシック

#### 文字範囲の代入/取得テスト

「ô」は 9 番の文字範囲なので、和文扱いのはず  
iso8859-1 和文扱い:0 § ¶ ° £ ¥ ô  
iso8859-1 欧文扱い:1 § ¶ ° £ ¥ ô  
標準:1 § ¶ ° £ ¥ ô

#### 文字範囲の状況取得

0 1 0

#### 文字コード 文字範囲

6 8 9 -1

ほとんど欧文扱い。2 番は別（「あ」）和文扱いにもどる

#### Ticket #25121

あいうえお か き く け こ さ し す せ そ a  
あいうえお か き く け こ さ し す せ そ  
あいうえお さ し す せ そ

以下はJFM グルー挿入検証

JA-JA (penなし)

		F 1A glue 0 9.4pt plus 2.3pt minus 4.5pt
		2 1A hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 1A glyph 256 あ 63 (0.0+0.0)x10.0
		4 1A kern 1 20.0pt (from JFM)
あ	ア	2 1A hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 1A glyph 256 ア 63 (0.0+0.0)x10.0
<hr/>		
		F 23 glue 0 9.4pt plus 2.3pt minus 4.5pt
		2 23 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 23 glyph 256 あ 63 (0.0+0.0)x10.0
		5 23 kern 1 -14.1pt (from 'lineend' in JFM)
		3 23 penalty 0 0 (for kinsoku)
		6 23 glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
あい		2 23 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 23 glyph 256 い 63 (0.0+0.0)x10.0
<hr/>		
		F 2E glue 0 9.4pt plus 2.3pt minus 4.5pt
		2 2E hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 2E glyph 256 あ 63 (0.0+0.0)x10.0
		5 2E kern 1 -14.1pt (from 'lineend' in JFM)
		3 2E penalty 0 0 (for kinsoku)
		4 2E glue 0 28.20001pt (from JFM)
あ	ウ	2 2E hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 2E glyph 256 ウ 63 (0.0+0.0)x10.0
<hr/>		
		2 39 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 39 glyph 256 い 63 (0.0+0.0)x10.0
		4 39 kern 1 20.0pt (from JFM)
い	ア	2 39 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 39 glyph 256 ア 63 (0.0+0.0)x10.0
<hr/>		
		2 41 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 41 glyph 256 い 63 (0.0+0.0)x10.0
		6 41 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
い	イ	2 41 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 41 glyph 256 い 63 (0.0+0.0)x10.0
<hr/>		
		2 49 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 49 glyph 256 い 63 (0.0+0.0)x10.0
		4 49 glue 0 14.1pt (from JFM)
い	ウ	2 49 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 49 glyph 256 ウ 63 (0.0+0.0)x10.0

JA-EN (penなし)

		F 52 glue 0 9.4pt plus 2.3pt minus 4.5pt
		2 52 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 52 glyph 256 あ 63 (0.0+0.0)x10.0
		4 52 kern 1 12.1pt (from JFM)
あ	a	8 52 glyph 256 a 62 (5.2002+0.03906)x5.49805
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		2 5A hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 5A glyph 256 い 63 (0.0+0.0)x10.0
		7 5A glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
い	a	8 5A glyph 256 a 62 (5.2002+0.03906)x5.49805
<hr/>		
		2 61 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 61 glyph 256 う 63 (0.0+0.0)x10.0
		5 61 kern 1 -14.1pt (from 'lineend' in JFM)
		3 61 penalty 0 0 (for kinsoku)
		4 61 glue 0 31.40001pt (from JFM)
う	a	8 61 glyph 256 a 62 (5.2002+0.03906)x5.49805
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		2 6A hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 6A glyph 256 え 63 (0.0+0.0)x10.0
		4 6A kern 1 17.3pt (from JFM)
え	a	8 6A glyph 256 a 62 (5.2002+0.03906)x5.49805
<hr/>		
		2 71 hlist 0(8.8+1.2)x10.0TTL (packed)
		.8 71 glyph 256 お 63 (0.0+0.0)x10.0
		5 71 kern 1 -14.1pt (from 'lineend' in JFM)
		3 71 penalty 0 0 (for kinsoku)
		7 71 glue 0 16.50554pt plus 1.0pt minus 1.0pt (xkanjiskip)
お	a	8 71 glyph 256 a 62 (5.2002+0.03906)x5.49805

EN-JA (penなし)

		8 7B glyph 256 a 62 (5.2002+0.03906)x5.49805
		3 7B penalty 0 0 (for kinsoku)
		7 7B glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
		2 7B hlist 0(8.8+1.2)x10.0TTL (packed)
あ	あ	.8 7B glyph 256 あ 63 (0.0+0.0)x10.0
<hr/>		
		8 83 glyph 256 a 62 (5.2002+0.03906)x5.49805
		3 83 penalty 0 0 (for kinsoku)
		4 83 glue 0 14.1pt (from JFM)
		2 83 hlist 0(8.8+1.2)x10.0TTL (packed)
a	い	.8 83 glyph 256 い 63 (0.0+0.0)x10.0
<hr/>		
		8 8B glyph 256 a 62 (5.2002+0.03906)x5.49805
		3 8B penalty 0 0 (for kinsoku)
		4 8B kern 1 20.0pt (from JFM)
		2 8B hlist 0(8.8+1.2)x10.0TTL (packed)
a	う	.8 8B glyph 256 う 63 (0.0+0.0)x10.0

JA-明 kern (pen なし)

	F 94 glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 94 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 94 glyph 256 あ 63 (0.0+0.0)x10.0
あ	4 94 kern 1 12.1pt (from JFM)
	8 94 kern 1 3.0pt
<hr/>	
	2 9C hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 9C glyph 256 い 63 (0.0+0.0)x10.0
い	8 9C kern 1 3.0pt
<hr/>	
	2 A4 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 A4 glyph 256 う 63 (0.0+0.0)x10.0
	5 A4 kern 1 -14.1pt (from 'lineend' in JFM)
	3 A4 penalty 0 10000 (for kinsoku)
う	4 A4 glue 0 31.40001pt (from JFM)
	8 A4 kern 1 3.0pt

明 kern-JA (pen なし)

	8 AE kern 1 3.0pt
	2 AE hlist 0(8.8+1.2)x10.OTLT (packed)
あ	.8 AE glyph 256 あ 63 (0.0+0.0)x10.0
	8 B4 kern 1 3.0pt
	3 B4 penalty 0 10000 (for kinsoku)
	4 B4 glue 0 14.1pt (from JFM)
	2 B4 hlist 0(8.8+1.2)x10.OTLT (packed)
い	.8 B4 glyph 256 い 63 (0.0+0.0)x10.0
	8 BC kern 1 3.0pt
	4 BC kern 1 20.0pt (from JFM)
	2 BC hlist 0(8.8+1.2)x10.OTLT (packed)
う	.8 BC glyph 256 う 63 (0.0+0.0)x10.0

JA-hbox (pen なし)

	F C4 glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 C4 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 C4 glyph 256 あ 63 (0.0+0.0)x10.0
	3 C4 penalty 0 0 (for kinsoku)
あ	4 C4 kern 1 12.1pt (from JFM)
	8 C4 hlist 2(0.0+0.0)x0.OTLT
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	2 CD hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 CD glyph 256 い 63 (0.0+0.0)x10.0
	3 CD penalty 0 0 (for kinsoku)
い	8 CD hlist 2(0.0+0.0)x0.OTLT
<hr/>	
	2 D4 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 D4 glyph 256 う 63 (0.0+0.0)x10.0
	5 D4 kern 1 -14.1pt (from 'lineend' in JFM)
	3 D4 penalty 0 0 (for kinsoku)
う	4 D4 glue 0 31.40001pt (from JFM)
	8 D4 hlist 2(0.0+0.0)x0.OTLT
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	2 DD hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 DD glyph 256 え 63 (0.0+0.0)x10.0
	3 DD penalty 0 0 (for kinsoku)
え	4 DD kern 1 17.3pt (from JFM)
	8 DD hlist 2(0.0+0.0)x0.OTLT
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	F E6 glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 E6 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 E6 glyph 256 あ ア 63 (0.0+0.0)x10.0
あ ア	4 E6 kern 1 12.1pt (from JFM)
	8 E6 hlist 2(8.8+1.2)x10.OTLT
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	.2 E5 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 E5 glyph 256 ア 63 (0.0+0.0)x10.0
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	F F1 glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 F1 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 F1 glyph 256 あ a 63 (0.0+0.0)x10.0
あ a	4 F1 kern 1 12.1pt (from JFM)
	8 F1 hlist 2(5.2002+0.03906)x5.49805TLT
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	.8 F0 glyph 256 a 62 (5.2002+0.03906)x5.49805
	2 FB hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 FB glyph 256 い a 63 (0.0+0.0)x10.0
い a	7 FB glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
	8 FB hlist 2(5.2002+0.03906)x5.49805TLT
	.8 FA glyph 256 a 62 (5.2002+0.03906)x5.49805

hbox-JA (pen なし)

	8 104 hlist 2(0.0+0.0)x0.OTLT
	3 104 penalty 0 0 (for kinsoku)
あ	2 104 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 104 glyph 256 あ 63 (0.0+0.0)x10.0
<hr/>	
	8 10B hlist 2(0.0+0.0)x0.OTLT
	3 10B penalty 0 0 (for kinsoku)
	4 10B glue 0 14.1pt (from JFM)
	2 10B hlist 0(8.8+1.2)x10.OTLT (packed)
い	.8 10B glyph 256 い 63 (0.0+0.0)x10.0
<hr/>	
	8 113 hlist 2(0.0+0.0)x0.OTLT
	3 113 penalty 0 0 (for kinsoku)
	4 113 kern 1 20.0pt (from JFM)
	2 113 hlist 0(8.8+1.2)x10.OTLT (packed)
う	.8 113 glyph 256 う 63 (0.0+0.0)x10.0

JA-JA (pen あり)

	F 11E glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 11E hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 11E glyph 256 あ 63 (0.0+0.0)x10.0
	4 11E kern 1 20.0pt (from JFM)
あ ア	2 11E hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 11E glyph 256 ア 63 (0.0+0.0)x10.0
	-----
	F 127 glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 127 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 127 glyph 256 あ 63 (0.0+0.0)x10.0
	5 127 kern 1 -14.1pt (from 'lineend' in JFM)
	3 127 penalty 0 123 (for kinsoku)
	6 127 glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
	2 127 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 127 glyph 256 イ 63 (0.0+0.0)x10.0
あい	-----
	F 132 glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 132 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 132 glyph 256 あ 63 (0.0+0.0)x10.0
	5 132 kern 1 -14.1pt (from 'lineend' in JFM)
	3 132 penalty 0 123 (for kinsoku)
	4 132 glue 0 28.20001pt (from JFM)
	2 132 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 132 glyph 256 ウ 63 (0.0+0.0)x10.0
あ ウ	-----
	2 13D hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 13D glyph 256 い 63 (0.0+0.0)x10.0
	4 13D kern 1 20.0pt (from JFM)
い ア	2 13D hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 13D glyph 256 ア 63 (0.0+0.0)x10.0
	-----
	2 145 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 145 glyph 256 い 63 (0.0+0.0)x10.0
	3 145 penalty 0 123 (for kinsoku)
	6 145 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
いい	2 145 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 145 glyph 256 イ 63 (0.0+0.0)x10.0
	-----
	2 14E hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 14E glyph 256 い 63 (0.0+0.0)x10.0
	3 14E penalty 0 123 (for kinsoku)
	4 14E glue 0 14.1pt (from JFM)
い ウ	2 14E hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 14E glyph 256 ウ 63 (0.0+0.0)x10.0

JA-EN (pen あり)

	F 158 glue 0 9.4pt plus 2.3pt minus 4.5pt
	2 158 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 158 glyph 256 あ 63 (0.0+0.0)x10.0
	4 158 kern 1 12.1pt (from JFM)
あ a	8 158 glyph 256 a 62 (5.2002+0.03906)x5.49805
	-----
	2 160 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 160 glyph 256 い 63 (0.0+0.0)x10.0
	3 160 penalty 0 123 (for kinsoku)
い a	7 160 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
	8 160 glyph 256 a 62 (5.2002+0.03906)x5.49805
	-----
	2 168 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 168 glyph 256 う 63 (0.0+0.0)x10.0
	5 168 kern 1 -14.1pt (from 'lineend' in JFM)
	3 168 penalty 0 123 (for kinsoku)
	4 168 glue 0 31.40001pt (from JFM)
う a	8 168 glyph 256 a 62 (5.2002+0.03906)x5.49805
	-----
	2 171 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 171 glyph 256 え 63 (0.0+0.0)x10.0
	4 171 kern 1 17.3pt (from JFM)
え a	8 171 glyph 256 a 62 (5.2002+0.03906)x5.49805
	-----
	2 178 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 178 glyph 256 お 63 (0.0+0.0)x10.0
	5 178 kern 1 -14.1pt (from 'lineend' in JFM)
	3 178 penalty 0 123 (for kinsoku)
	7 178 glue 0 16.50554pt plus 1.0pt minus 1.0pt (xkanjiskip)
お a	8 178 glyph 256 a 62 (5.2002+0.03906)x5.49805

EN-JA (pen あり)

	8 182 glyph 256 a 62 (5.2002+0.03906)x5.49805
	3 182 penalty 0 321 (for kinsoku)
	7 182 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
a あ	2 182 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 182 glyph 256 あ 63 (0.0+0.0)x10.0
	-----
	8 18A glyph 256 a 62 (5.2002+0.03906)x5.49805
	3 18A penalty 0 892 (for kinsoku)
	4 18A glue 0 14.1pt (from JFM)
a い	2 18A hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 18A glyph 256 い 63 (0.0+0.0)x10.0
	-----
	8 192 glyph 256 a 62 (5.2002+0.03906)x5.49805
	3 192 penalty 0 321 (for kinsoku)
	4 192 kern 1 20.0pt (from JFM)
a う	2 192 hlist 0(8.8+1.2)x10.OTLT (packed)
	.8 192 glyph 256 う 63 (0.0+0.0)x10.0

JA-hbox (pen あり)

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F 19C glue 0 9.4pt plus 2.3pt minus 4.5pt
2 19C hlist 0(8.8+1.2)x10.0TLT (packed)
.8 19C glyph 256 あ 63 (0.0+0.0)x10.0
4 19C kern 1 12.1pt (from JFM)
8 19C hlist 2(8.8+1.2)x10.0TLT
あ ア
.2 19B hlist 0(8.8+1.2)x10.0TLT (packed)
..8 19B glyph 256 ア 63 (0.0+0.0)x10.0
-----
F 1A7 glue 0 9.4pt plus 2.3pt minus 4.5pt
2 1A7 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 1A7 glyph 256 あ 63 (0.0+0.0)x10.0
4 1A7 kern 1 12.1pt (from JFM)
8 1A7 hlist 2(5.2002+0.03906)x5.49805TLT
あ a
.8 1A6 glyph 256 a 62 (5.2002+0.03906)x5.49805
-----
2 1B3 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 1B3 glyph 256 い 63 (0.0+0.0)x10.0
3 1B3 penalty 0 123 (for kinsoku)
7 1B3 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
8 1B3 hlist 2(5.2002+0.03906)x5.49805TLT
い a
.8 1B2 glyph 256 a 62 (5.2002+0.03906)x5.49805
-----
8 1BE hlist 2(8.8+1.2)x10.0TLT
.2 1BC hlist 0(8.8+1.2)x10.0TLT (packed)
..8 1BC glyph 256 ( 63 (0.0+0.0)x10.0
3 1BE penalty 0 571 (for kinsoku)
4 1BE glue 0 14.1pt (from JFM)
2 1BE hlist 0(8.8+1.2)x10.0TLT (packed)
.8 1BE glyph 256 い 63 (0.0+0.0)x10.0
3 1BE penalty 0 123 (for kinsoku)
6 1BE glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
8 1BE hlist 2(8.8+1.2)x10.0TLT
( い)
.2 1BD hlist 0(8.8+1.2)x10.0TLT (packed)
..8 1BD glyph 256 ) 63 (0.0+0.0)x10.0
-----
italic correction
8 1CE glyph 256 f 37 (6.94444+1.94444)x3.06665
9 1CE kern 1 2.11945pt (italic correction)
3 1CE penalty 0 123 (for kinsoku)
4 1CE glue 0 5.0pt minus 5.0pt (from JFM)
2 1CE hlist 0(8.8+1.2)x5.0TLT (packed)
.0 0 kern 0 -0.09766pt
.8 1CE glyph 256 ( 60 (8.32031+0.71777)x5.09766
9 1CE kern 1 0.0pt (italic correction)
3 1CE penalty 0 10000 (for kinsoku)
6 1CE glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 1CE hlist 0(8.8+1.2)x10.0TLT (packed)
f (あ)
.8 1CE glyph 256 あ 60 (8.11035+0.36133)x8.99902
.0 0 kern 0 1.00098pt
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[x]kanjiskip の挿入

kanjiskip from JFM, autospacing (JA-JA)

	2 1E2 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1E2 glyph 256 あ 60 (8.11035+0.36133)x8.99902
	.0 0 kern 0 1.00098pt
	6 1E2 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
ああ	2 1E2 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1E2 glyph 256 あ 63 (0.0+0.0)x10.0
	2 1EB hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1EB glyph 256 あ 60 (8.11035+0.36133)x8.99902
	.0 0 kern 0 1.00098pt
	6 1EB glue 0 0.0pt (kanjiskip)
ああ	2 1EB hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1EB glyph 256 あ 63 (0.0+0.0)x10.0
	8 1F3 glyph 256 は 66 (10.56+1.44)x12.0
	6 1F3 glue 0 0.0pt (kanjiskip)
はあ	2 1F3 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1F3 glyph 256 あ 63 (0.0+0.0)x10.0
	2 1FB hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1FB glyph 256 あ 60 (8.11035+0.36133)x8.99902
	.0 0 kern 0 1.00098pt
	6 1FB glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
	2 1FB hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1FB glyph 256 あ 60 (8.11035+0.36133)x8.99902
	.0 0 kern 0 1.00098pt
	6 1FB glue 0 0.0pt (kanjiskip)
あああ	2 1FB hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 1FB glyph 256 あ 60 (8.11035+0.36133)x8.99902
	.0 0 kern 0 1.00098pt

kanjiskip from JFM/autospacing (JA-EN)

	2 20A hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 20A glyph 256 ま 63 (0.0+0.0)x10.0
	7 20A glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
ま x	8 20A glyph 256 x 62 (5.07813+0.0)x4.8877
	2 211 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 211 glyph 256 ま 63 (0.0+0.0)x10.0
	7 211 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
ま x	8 211 glyph 256 x 62 (5.07813+0.0)x4.8877
	2 218 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 218 glyph 256 ま 63 (0.0+0.0)x10.0
	7 218 glue 0 0.0pt (xkanjiskip)
ま x	8 218 glyph 256 x 62 (5.07813+0.0)x4.8877
	2 21F hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 21F glyph 256 ま 63 (0.0+0.0)x10.0
	7 21F glue 0 3.1pt plus 0.45pt minus 0.57pt (xkanjiskip)
ま x	8 21F glyph 256 x 62 (5.07813+0.0)x4.8877
	2 226 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 226 glyph 256 ま 63 (0.0+0.0)x10.0
	7 226 glue 0 0.0pt (xkanjiskip)
ま x	8 226 glyph 256 x 62 (5.07813+0.0)x4.8877
	2 22C hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 22C glyph 256 ま 63 (0.0+0.0)x10.0
	7 22C glue 0 0.0pt (xkanjiskip)
ま x	8 22C glyph 256 x 62 (5.07813+0.0)x4.8877

xkanjiskip from JFM/autospacing (EN-JA)

	8 235 glyph 256 x 62 (5.07813+0.0)x4.8877
	3 235 penalty 0 0 (for kinsoku)
	7 235 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
x ま	2 235 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 235 glyph 256 ま 63 (0.0+0.0)x10.0
	8 23D glyph 256 x 62 (5.07813+0.0)x4.8877
	3 23D penalty 0 0 (for kinsoku)
	7 23D glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
x ま	2 23D hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 23D glyph 256 ま 63 (0.0+0.0)x10.0
	8 245 glyph 256 x 62 (5.07813+0.0)x4.8877
	3 245 penalty 0 0 (for kinsoku)
	7 245 glue 0 0.0pt (xkanjiskip)
x ま	2 245 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 245 glyph 256 ま 63 (0.0+0.0)x10.0
	8 24D glyph 256 x 62 (5.07813+0.0)x4.8877
	3 24D penalty 0 0 (for kinsoku)
	7 24D glue 0 3.1pt plus 0.45pt minus 0.57pt (xkanjiskip)
x ま	2 24D hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 24D glyph 256 ま 63 (0.0+0.0)x10.0
	8 255 glyph 256 x 62 (5.07813+0.0)x4.8877
	3 255 penalty 0 0 (for kinsoku)
	7 255 glue 0 0.0pt (xkanjiskip)
x ま	2 255 hlist 0(8.8+1.2)x10.0TLT (packed)
	.8 255 glyph 256 ま 63 (0.0+0.0)x10.0

xまおx

```

8 25C glyph 256 x 62 (5.07813+0.0)x4.8877
3 25C penalty 0 0 (for kinsoku)
7 25C glue 0 0.0pt (xkanjiskip)
2 25C hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 25C glyph 256 ま 63 (0.0+0.0)x10.0
6 25C glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 25C hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 25C glyph 256 お 63 (0.0+0.0)x10.0
5 25C kern 1 -14.1pt (from 'lineend' in JFM)
3 25C penalty 0 0 (for kinsoku)
7 25C glue 0 14.1pt (xkanjiskip)
8 25C glyph 256 x 62 (5.07813+0.0)x4.8877

```

---

more than one penalty

おい

```

2 26F hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 26F glyph 256 お 63 (0.0+0.0)x10.0
5 26F kern 1 -14.1pt (from 'lineend' in JFM)
8 26F penalty 0 1701
8 26F penalty 0 1701
8 26F penalty 0 1701
6 26F glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
2 26F hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 26F glyph 256 っ 63 (0.0+0.0)x10.0

```

---

おお

```

2 27A hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 27A glyph 256 お 63 (0.0+0.0)x10.0
5 27A kern 1 -14.1pt (from 'lineend' in JFM)
8 27A penalty 0 1701
8 27A penalty 0 1701
8 27A penalty 0 1701
6 27A glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
2 27A hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 27A glyph 256 お 63 (0.0+0.0)x10.0

```

---

あい

```

F 286 glue 0 9.4pt plus 2.3pt minus 4.5pt
2 286 hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 286 glyph 256 あ 63 (0.0+0.0)x10.0
5 286 kern 1 -14.1pt (from 'lineend' in JFM)
8 286 penalty 0 1701
8 286 penalty 0 1701
8 286 penalty 0 1701
6 286 glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
2 286 hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 286 glyph 256 っ 63 (0.0+0.0)x10.0

```

---

あお

```

F 293 glue 0 9.4pt plus 2.3pt minus 4.5pt
2 293 hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 293 glyph 256 あ 63 (0.0+0.0)x10.0
5 293 kern 1 -14.1pt (from 'lineend' in JFM)
8 293 penalty 0 1701
8 293 penalty 0 1701
8 293 penalty 0 1701
6 293 glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
2 293 hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 293 glyph 256 お 63 (0.0+0.0)x10.0

```

---

その他: italic correction and accents

あ j

```

2 2A2 hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 2A2 glyph 256 あ 60 (8.11035+0.36133)x8.99902
.0 0 kern 0 1.00098pt
9 2A2 kern 1 0.0pt (italic correction)
7 2A2 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
8 2A2 glyph 256 j 1 (6.67859+1.94444)x3.05557

```

---

れ Ä )

```

2 2AA hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 2AA glyph 256 れ 63 (0.0+0.0)x10.0
7 2AA glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
8 2AA kern 2 1.25pt (for accent)
8 2AA hlist 0(6.28473+0.0)x5.00002TTLT, shifted -2.52777
.0 0 glyph 0 ` 1 (6.28473+0.0)x5.00002
8 2AA kern 2 -6.25002pt (for accent)
8 2AA glyph 256 Ä 1 (6.83331+0.0)x7.50002
3 2AA penalty 0 10000 (for kinsoku)
7 2AA glue 0 0.0pt (xkanjiskip)
2 2AA hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 2AA glyph 256 ) 63 (0.0+0.0)x10.0

```

---

その他: box boundary

かあか

```

F 2BB glue 0 10.3pt
2 2BB hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 2BB glyph 256 か 63 (0.0+0.0)x10.0
6 2BB glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 2BB hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 2BB glyph 256 あ 63 (0.0+0.0)x10.0
5 2BB kern 1 -14.1pt (from 'lineend' in JFM)
3 2BB penalty 0 0 (for kinsoku)
6 2BB glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
2 2BB hlist 0(8.8+1.2)x10.0TTLT (packed)
.8 2BB glyph 256 か 63 (0.0+0.0)x10.0
F 2BB kern 1 8.5pt

```

---

```

8 2CA glyph 256 a 62 (5.2002+0.03906)x5.49805
3 2CA penalty 0 0 (for kinsoku)
7 2CA glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
2 2CA hlist 0(8.8+1.2)x10.0TLT (packed)
.8 2C9 glyph 256 か 63 (0.0+0.0)x10.0
6 2CA glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 2CA hlist 0(8.8+1.2)x10.0TLT (packed)
.8 2C9 glyph 256 ぁ 63 (0.0+0.0)x10.0
5 2CA kern 1 -14.1pt (from 'lineend' in JFM)
3 2CA penalty 0 0 (for kinsoku)
6 2CA glue 0 14.1pt plus 0.4pt minus 0.4pt (kanjiskip)
2 2CA hlist 0(8.8+1.2)x10.0TLT (packed)
.8 2C9 glyph 256 か 63 (0.0+0.0)x10.0
7 2CA glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
8 2CA glyph 256 a 62 (5.2002+0.03906)x5.49805
-----
8 2DD glyph 256 a 62 (5.2002+0.03906)x5.49805
8 2DD hlist 2(8.8+1.2)x28.8TLT
.F 2DC glue 0 10.3pt
.2 2DC hlist 0(8.8+1.2)x10.0TLT (packed)
..8 2DC glyph 256 か 63 (0.0+0.0)x10.0
.F 2DC kern 1 8.5pt
a か a
-----
8 2DD glyph 256 a 62 (5.2002+0.03906)x5.49805
2 2EB hlist 0(8.8+1.2)x10.0TLT (packed)
.8 2EB glyph 256 き 63 (0.0+0.0)x10.0
3 2EB penalty 0 0 (for kinsoku)
8 2EB hlist 2(8.8+1.2)x28.8TLT
.F 2E9 glue 0 10.3pt
.2 2E9 hlist 0(8.8+1.2)x10.0TLT (packed)
..8 2E9 glyph 256 か 63 (0.0+0.0)x10.0
.F 2E9 kern 1 8.5pt
3 2EB penalty 0 0 (for kinsoku)
2 2EB hlist 0(8.8+1.2)x10.0TLT (packed)
.8 2EB glyph 256 き 63 (0.0+0.0)x10.0
6 2EB glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
8 2EB hlist 2(8.8+1.2)x10.0TLT
.2 2EA hlist 0(8.8+1.2)x10.0TLT (packed)
..8 2EA glyph 256 き 63 (0.0+0.0)x10.0
6 2EB glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 2EB hlist 0(8.8+1.2)x10.0TLT (packed)
.8 2EB glyph 256 き 63 (0.0+0.0)x10.0
-----
2 303 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 303 glyph 256 ぁ 60 (8.11035+0.36133)x8.99902
.0 0 kern 0 1.00098pt
3 303 penalty 0 1000 (for kinsoku)
6 303 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
8 303 hlist 2(8.8+1.2)x5.0TLT
.2 301 hlist 0(8.8+1.2)x5.0TLT (packed)
..0 0 kern 0 -0.09766pt
..8 301 glyph 256 ( 60 (8.32031+0.71777)x5.09766
3 303 penalty 0 1000 (for kinsoku)
6 303 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 303 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 303 glyph 256 ぁ 60 (8.11035+0.36133)x8.99902
.0 0 kern 0 1.00098pt
3 303 penalty 0 1000 (for kinsoku)
4 303 glue 0 5.0pt minus 5.0pt (from JFM)
2 303 hlist 0(8.8+1.2)x5.0TLT (packed)
.0 0 kern 0 -0.09766pt
.8 302 glyph 256 ( 60 (8.32031+0.71777)x5.09766
3 303 penalty 0 10000 (for kinsoku)
6 303 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 303 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 303 glyph 256 ぁ 60 (8.11035+0.36133)x8.99902
.0 0 kern 0 1.00098pt
-----
あ(あ (あ

```



paragraph, hbox and math boundary

```

0 0 whatsit 6 subtype: 66
0 0 hlist 3(0.0+0.0)x19.2TLT
F 321 glue 0 6.8pt plus 0.2pt minus 0.4pt
2 321 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 321 glyph 256 か 63 (0.0+0.0)x10.0
3 321 penalty 0 500 (for kinsoku)
6 321 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 321 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 321 glyph 256 工 63 (0.0+0.0)x10.0
8 321 penalty 0 10000
0 0 glue 15 30.0pt
0 0 glue 9 0.0pt
-----
0 0 whatsit 6 subtype: 66
F 330 glue 0 10.3pt
2 330 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 330 glyph 256 か 63 (0.0+0.0)x10.0
3 330 penalty 0 500 (for kinsoku)
6 330 glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 330 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 330 glyph 256 工 63 (0.0+0.0)x10.0
8 330 penalty 0 10000
0 0 glue 15 30.0pt
0 0 glue 9 0.0pt
-----
F 33E glue 0 10.3pt
2 33E hlist 0(8.8+1.2)x10.0TLT (packed)
.8 33E glyph 256 か 63 (0.0+0.0)x10.0
6 33E glue 0 0.0pt plus 0.4pt minus 0.4pt (kanjiskip)
2 33E hlist 0(8.8+1.2)x10.0TLT (packed)
.8 33E glyph 256 工 63 (0.0+0.0)x10.0
F 33E glue 0 7.8pt
-----
F 348 glue 0 9.4pt plus 2.3pt minus 4.5pt
2 348 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 348 glyph 256 あ 63 (0.0+0.0)x10.0
5 348 kern 1 -14.1pt (from 'lineend' in JFM)
3 348 penalty 0 0 (for kinsoku)
4 348 glue 0 26.6pt plus 4.3pt minus 8.7pt (from JFM)
8 348 math 0
8 348 glyph 256 a 7 (4.30554+0.0)x5.28589
8 348 math 1
3 348 penalty 0 0 (for kinsoku)
4 348 glue 0 6.8pt plus 0.2pt minus 0.4pt (from JFM)
2 348 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 348 glyph 256 さ 63 (0.0+0.0)x10.0
7 348 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
8 348 math 0
8 348 glyph 256 a 7 (4.30554+0.0)x5.28589
8 348 math 1
3 348 penalty 0 0 (for kinsoku)
7 348 glue 0 2.40553pt plus 1.0pt minus 1.0pt (xkanjiskip)
2 348 hlist 0(8.8+1.2)x10.0TLT (packed)
.8 348 glyph 256 か 63 (0.0+0.0)x10.0
F 348 kern 1 8.5pt
-----

```

その他: unhbox の連続

```

2 364 hlist 0(8.4675+1.15466)x4.81108TLT (packed)
.8 362 glyph 256 ) 51 (8.4675+1.15466)x9.62216
.0 0 kern 0 -4.81108pt
4 364 glue 0 4.81108pt minus 4.81108pt (from JFM)
8 364 glyph 512 a 62 (5.2002+0.03906)x5.49805
-----
2 36F hlist 0(8.4675+1.15466)x4.81108TLT (packed)
.8 36C glyph 256 ) 51 (8.4675+1.15466)x9.62216
.0 0 kern 0 -4.81108pt
4 36F glue 0 4.81108pt minus 4.81108pt (from JFM)
8 36F glyph 512 a 62 (5.2002+0.03906)x5.49805
-----

```